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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/537,436	06/03/2005	Akira Aochi	050323	3190
23850	7590	11/18/2005	EXAMINER	
ARMSTRONG, KRATZ, QUINTOS, HANSON & BROOKS, LLP			NGUYEN, CHAU N	
1725 K STREET, NW			ART UNIT	
SUITE 1000			PAPER NUMBER	
WASHINGTON, DC 20006			2831	

DATE MAILED: 11/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No. ☒

10/537,436

Applicant(s)

AOCHI ET AL.

Examiner

Chau N. Nguyen

Art Unit

2831

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 June 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 6/3/05&7/6/05.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

DETAILED ACTION

Drawings

1. Figures 13 and 15 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities: Figures 12A, 12B, and 12C as shown in the drawings are not listed in the Brief Description of the Drawings and not disclosed in the Detailed Description of the Invention. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 5 and 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Regarding claims 5 and 8, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any

inventions covered therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sawada (JP2001-43914).

Sawada discloses a circuit board connector (Figures 2-3) comprising a main body portion, a first connecting portion (26), a second connecting portion (25) for connection to a circuit board, wherein the circuit board connector is obtained by cutting a conductive plate material provided with plating layers (28) on front and back sides thereof and thereafter forming the second connection portion into a shape in such a manner that one of the plating layers forms an outer circumferential surface of the second connection portion. Sawada also discloses the cut surfaces at both edges of the second connection portion opposing each other (re claim 2) and a gap is provided between the cut surfaces at both edges of the second connection portion that oppose each other (re claim 3).

Sawada does not disclose the second connection portion being formed into a shape having an annular transverse cross section. However, it would have been obvious to one skilled in the art to modify the shape of the second connection portion of Sawada to be an annular shape to meet the specific use of the resulting connector since it has been held that merely changing the shape of a component is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237.

9. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sawada in view of Singh (2003/0017735).

Sawada discloses the invention substantially as claimed except for the lead portion being subjected to a bending process to have an O-shaped or a C-shaped transverse cross section. Singh discloses a circuit board connector comprising a first connection portion (32), a lead portion (34), and a second connection portion (36), wherein the lead portion is subjected to a bending process to have a C-shaped transverse cross section. It would have been obvious to one skilled in the art to modify the lead portion of Sawada to have a C-shaped transverse cross section as taught by Singh to provide another connection means for the connector.

10. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sawada in view of Neff et al. (4,150,355).

Sawada discloses a circuit board connector comprising the invention substantially as claimed except for the second connection portion having an annular transverse cross section and the cut surfaces being located inside the annular cross sectional shape. Neff et al. discloses a connector (Figures 2-3) comprising a connection portion having an annular transverse cross section with the cut surfaces being located inside the annular cross-sectional shape. It would have been obvious to one skilled in the art to modify the second connection portion of Sawada to have an annular cross section shape with the cut surface being located inside the annular cross-sectional shape such that if needed, a small wire can be connected to the opposed edges of the cut surfaces as taught by Neff et al.

11. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sawada in view of Neff et al. as applied to claim 6 above, and further in view of Singh.

Claims 7 and 8 additionally recite the lead portion being subjected to a bending process to have an O-shaped or a C-shaped transverse cross section. Singh discloses a circuit board connector comprising a first connection portion (32),

a lead portion (34), and a second connection portion (36), wherein the lead portion is subjected to a bending process to have a C-shaped transverse cross section. It would have been obvious to one skilled in the art to modify the lead portion of Sawada to have a C-shaped transverse cross section as taught by Singh to provide another connection means for the connector.

12. Claims 1 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weidler (3,897,992) in view of Sawada.

Weidler discloses a connector (Figures 3-4) comprising a main body portion, a first connection portion (16), a second connection portion (19), wherein the connector is obtained by cutting a conductive plate material, and the second connection portion is formed into a shape having an annular transverse cross section.

Weidler does not disclose the conductive plate material being provided with plating layers on front and back sides thereof such that one of the plating layers forms an outer circumferential surface of the second connection portion nor the connector being used to uprightly connected between first and second circuit boards.

Sawada discloses a connector which is obtained by cutting a conductive plate material provided with plating layers (28) on front and back sides thereof. It would have been obvious to one skilled in the art to provide plating layers on front and back side of the conductive plate material of Weidler to enhance the electrical connection as taught by Sawada. Noted that the modified connector of Weidler can be used to uprightly connect between first and second circuit boards since it comprises structure and material as claimed. In addition, it has been held that a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

13. Claims 6 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okuyama et al. (6,305,949) in view of Neff et al.

Okuyama et al. discloses a circuit board connector comprising the invention substantially as claimed including the connector being uprightly connected between first and second circuit boards. Okuyama et al. does not disclose the second connection portion (1b) having an annular transverse cross section with the cut surfaces being located inside the annular cross-sectional shape. Neff et al.

discloses a connector (Figures 2-3) comprising a connection portion having an annular transverse cross section with the cut surfaces being located inside the annular cross-sectional shape. It would have been obvious to one skilled in the art to modify the second connection portion of Okuyama et al. to have an annular cross section shape with the cut surface being located inside the annular cross-sectional shape such that if needed, a small wire can be connected to the opposed edges of the cut surfaces as taught by Neff et al.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chau N. Nguyen whose telephone number is 571-272-1980. The examiner can normally be reached on Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on 571-272-2800 ext 31. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



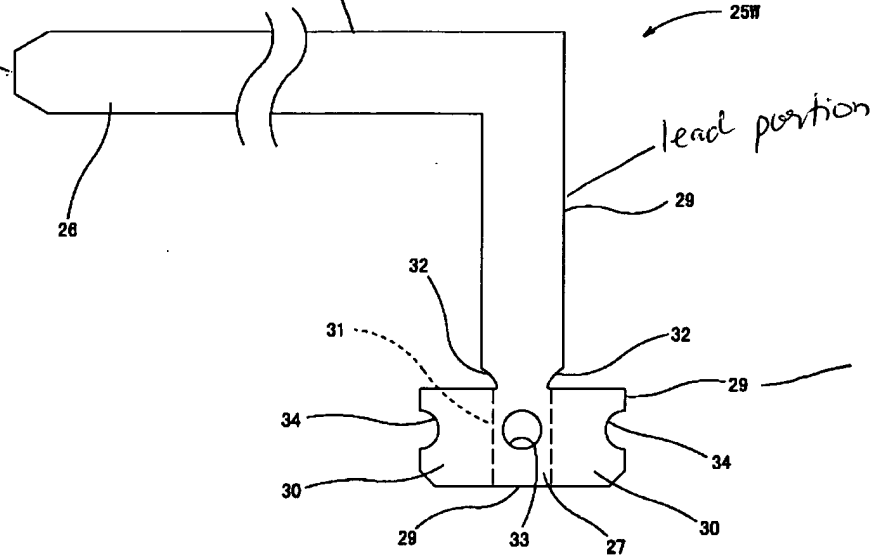
Chau N Nguyen
Primary Examiner
Art Unit 2831

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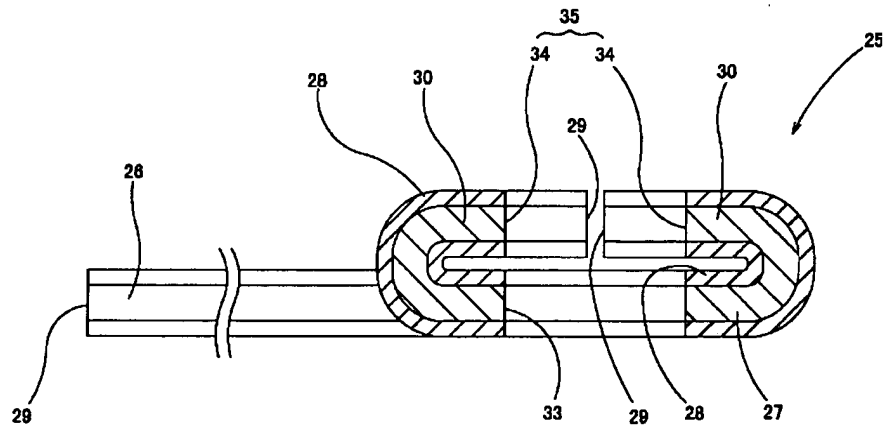
main body portion

【図2】

first connection portion



【図3】



- | | |
|--------------|--------------|
| 10...回路基板 | 26W...端子素材 |
| 11...スルーホール | 28...メッキ |
| 12...半田 | 29...破断面 |
| 20...基板用コネクタ | 33, 35...貫通孔 |
| 25...端子金具 | |